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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/783,894

Applicant(s)

KUBLER ET AL.

Examiner

MATTHEW CAMPBELL

Art Unit

2419

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-70 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-70 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SG/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to the reply filed on 2-2-2009, in which claims 22, 44 and 63 were amended and no claims were canceled. Thus, claims 22-70 are pending, of which the independent claims are 22, 44 and 63.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 22-32, 34, 36-41, 43-59 and 61-62** are rejected under 35 U.S.C. 102(e) as being anticipated by *Sharman* (US H001641 H).

For claim 22, Sharman teaches an information transmission device (**mobile routing network 101, Figs. 1 and 2**) for communicatively coupling at least one packet network (**packet data network 108, Fig. 1**) to at least one communication network having an associated information format (**circuit switched network 103, Fig. 1**), the device comprising:

- (a) at least one packet interface for exchanging information via the at least one packet network (**packet links 115 and 117, Figs. 1 and 2**);
- (b) at least one network interface, each of the at least one network interface for exchanging information via one of the at least one communication network in an associated format (**circuit links 109 and 116, Figs. 1 and 2**);
- (c) at least one converter for selectively converting information received by one of the at least one packet interface for transmission via one of the at least one network interface in the associated format, and for selectively converting for transmission via the one of the at least one packet interface information received from the one of the at least one network interface in the associated format (**modem 406 connects packet links 413 and 414 with circuit link 415, Fig. 4**);
and
- (d) a host interface supporting the communication of status and control information between the information transmission device and a host device, the host interface permitting management of the information transmission device by a host device compatible with the host interface (**packet protocol control 805**

connects host computer 812 with the network system for controlling, sending and receiving data. Mobile end system control 813 controls the operation of mobile end system 102, Fig. 8 and Col. 7 Lines 60-63).

For claim 23, Sharman teaches wherein the at least one packet interface is compliant with an Internet protocol (IP) **(packet data network follows TCP/IP, Col. 6 Lines 25-37).**

For claim 24, Sharman teaches wherein the Internet protocol is the transport control protocol (TCP)/Internet protocol (IP) **(Ibid).**

For claim 25, Sharman teaches wherein the information exchanged via the at least one packet interface comprises digitized voice information **(audio path switch connects packet data processor with audio processor and its attached speaker and microphone, Col. 7 Lines 52-54).**

For claim 26, Sharman teaches wherein the information exchanged via the packet interface comprises non-voice data **(register current location over packet link, Col. 30 Lines 30-32).**

For claim 27, Sharman teaches wherein at least a portion of the non-voice data is unrelated to the exchange of digitized voice information **(Ibid).**

For claim 28, Sharman teaches wherein the at least one network interface provides the functionality of a conventional telephone switching network interface (**conventional network of telephone switching equipment, Col. 6 lines 11-24**).

For claim 29, Sharman teaches wherein the at least one network interface provides at least one of a battery supply, over-voltage protection, ringing current, tone generation, tone detection, two wire to four wire conversion, and test functionality (**busy tone generator 605 and ringback tone generator 607, Fig. 6**).

For claim 30, Sharman teaches wherein the at least one converter converts digitized voice information into an analog voice signal, and an analog voice signal into digitized voice information (**modem 406, Col. 9 Lines 57-67**).

For claim 31, Sharman teaches wherein the at least one converter buffers digitized voice information for a predefined period of time to minimize gaps in an analog voice signal (**buffers 403 and 404, Fig. 4 and Col. 10 Lines 8-10**).

For claim 32, Sharman teaches wherein the predefined period of time is based upon a propagation delay of a communication network (**maximum time to live, Col. 10 Lines 11-15**).

For claim 34, Sharman teaches wherein the at least one network interface is a digital interface (**telephone access link 118 incorporating optical link, Col. 6 Lines 63-65**).

For claim 36, Sharman teaches wherein the at least one converter adapts information received via the at least one packet interface into modem signals for transmission via the at least one network interface, and adapts modem signals received via the at least one network interface into information for transmission via the at least one packet interface (**modem 406, Col. 9 Lines 57-67**).

For claim 37, Sharman teaches wherein the host interface supports the communication of information related to telephony signals received via the at least one network interface (**incoming indication, Col. 16 Lines 23-28**).

For claim 38, Sharman teaches wherein telephony signals received comprises at least one of dual tone multi-frequency (DTMF) signals, dial tone, a ring signal, on-hook, off-hook, and call progress tones (**DTMF inband signaling, Col. 16 Lines 53-64**).

For claim 39 Sharman teaches wherein the host interface supports the communication of information related to generation of telephony signals for transmission via the at least one network interface (**answer signal, Col 16 Lines 30-34**).

For claim 40, Sharman teaches wherein the telephony signals for transmission comprise at least one of dual tone multi-frequency (DTMF) signals, dial tone, a busy signal, and a ringing signal (**DTMF inband signaling, Col. 16 Lines 53-64**).

For claim 41, Sharman teaches wherein the host interface supports exchange of voice messages for transmission via the at least one network interface (**host computer 812 sends and receives data, Col. 7 Lines 60-63**).

For claim 43, Sharman teaches wherein the packet network is a wireless network (**wireless packet radio link 120, Fig. 8**).

For claim 44, Sharman teaches a method for communicatively coupling a packet network (**packet data network 108, Fig. 1**) to at least one communication network having an associated information format (**circuit switched network 103, Fig. 1**), the method comprising:

- (a) receiving, from one of the packet network and the at least one communication network, information requesting setup of a call between the packet network and the at least one communication network (**mobile end system 813 receives voice call, Col. 16 Lines 2-4**);
- (b) providing, to a host device, at least a portion of the information requesting setup of a call (**incoming indication, Col. 16 Lines 23-28**);

- (c) receiving, from the host device, configuration information based upon the at least a portion of the information requesting setup of a call **(it then sends an answer signaling packet to the mobile data switch for signaling answer supervision, Col 16 Lines 30-34)**; and
- (d) establishing call communication between the packet network and the at least one communication network based upon the configuration information **(connect call, Col 16 Lines 34-39)**, the communication including the conversion of information received in a packet format for transmission in the associated format, and the conversion of information received in the associated format for transmission in a packet format **(modem 406 connects packet links 413 and 414 with circuit link 415, Fig. 4 and Col. 9 Lines 57-67)**.

For claim 45, Sharman teaches wherein the packet network is compliant with an Internet protocol (IP) **(packet data network follows TCP/IP, Col. 6 Lines 25-37)**.

For claim 46, Sharman teaches wherein the Internet Protocol is compliant with the transmission control protocol (TCP)/Internet protocol (IP) **(Ibid)**.

For claim 47 Sharman teaches wherein packets comprise digitized voice information **(audio path switch connects packet data processor with audio processor and its attached speaker and microphone, Col. 7 Lines 52-54)**.

For claim 48, Sharman teaches wherein packets comprise non-voice data (**register current location over packet link, Col. 30 Lines 30-32**).

For claim 49, Sharman teaches wherein at least a portion of the non-voice data is unrelated to the communication of digitized voice information (*Ibid*).

For claim 50, Sharman teaches wherein the at least one communication network is a second packet network (**route data packets and connect switch circuits between mobile end system and other mobile systems of similar design, Col. 5 Line 62 - Col. 6 Line 2**).

For claim 51, Sharman teaches wherein the second packet network is compliant with an Internet protocol (IP) (**packet data network follows TCP/IP, Col. 6 Lines 25-37**).

For claim 52, Sharman teaches wherein the Internet Protocol is compliant with the transmission control protocol (TCP)/Internet protocol (IP) (*Ibid*).

For claim 53, Sharman teaches wherein the at least one communication network comprises a conventional telephone switching network (**conventional network of telephone switching equipment, Col. 6 lines 11-24**).

For claim 54, Sharman teaches wherein the associated format is an analog format **(telephone access link 118 incorporating electrical cable, Col. 6 Lines 63-65)**.

For claim 55, Sharman teaches wherein the associated information format is a digital format **(telephone access link 118 incorporating optical link, Col. 6 Lines 63-65)**.

For claim 56, Sharman teaches wherein the associated format is a modem signal **(modem 406, Col. 9 Lines 57-67)**.

For claim 57, Sharman teaches wherein the conversion of information received in a packet format for transmission in the associated format comprises converting digitized voice information into an analog voice signal **(modem 406, Col. 9 Lines 57-67)**.

For claim 58, Sharman teaches wherein the conversion of information received in a packet format for transmission in the associated format comprises buffering digitized voice information for a period of time to minimize gaps in a voice signal **(buffers 403 and 404, Fig. 4 and Col. 10 Lines 8-10)**.

For claim 59, Sharman teaches wherein the conversion of information received in the associated format for transmission in the packet format comprises converting an analog voice signal into digitized voice information **(modem 406, Col. 9 Lines 57-67)**.

For claim 61, Sharman teaches wherein the host device is a personal computer (**host computer 812, Fig. 8 and Col. 7 Lines 60-63**).

For claim 62, Sharman teaches wherein the packet network is a wireless network (**wireless packet radio link 120, Fig. 8**).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. **Claims 33 and 60** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharman in view of *Rahnema* (US 5,465,253 A).

For claims 33 and 60, Sharman does not teach but Rahnema from the same field of endeavor teaches wherein the at least one converter reduces the number of voice packets transmitted via the at least one packet network, by changing the packetization of digitized voice information when voice activity on the at least one network interface is below a predetermined level (**Rahnema: silence intervals in voice conversation are not transmitted in packetized voice communication, Abstract**). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Sharman to incorporate reducing the packetization of digitized voice information when voice activity on the at least one network interface is below a predetermined level by not packetizing silence intervals in a voice conversation as taught by Rahnema. The motivation to do so would have been to preserve bandwidth.

7. **Claim 35** is rejected under 35 U.S.C. 103(a) as being unpatentable over Sharman in view of *Baumert et al.* (US 5,392,281 A).

For claim 35, Sharman does not teach but Baumert from the same field of endeavor teaches wherein the at least one converter compensates for a difference in bit rate between interfaces (**Baumert: hybrid ring network with latency adjustment buffer, Abstract**). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Sharman to incorporate compensating for a difference in bit rate between interfaces by implementing a latency adjustment buffer as taught by

Baumert. The motivation to do so would have been to provide a smooth connection between differing interfaces.

8. **Claim 42** is rejected under 35 U.S.C. 103(a) as being unpatentable over Sharman in view of *Endo* (US 6,453,351 B1).

For claim 42, Sharman does not teach but *Endo* from the same field of endeavor teaches wherein the host interface supports exchange of information related to a propagation delay of a communication network (**Endo: each node monitors queuing delay of a cell and sends a result to a management system, Abstract**). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Sharman to incorporate the host interface supports exchange of information related to a propagation delay of a communication network by sending queuing delay information to a network management system as taught by *Endo*. The motivation to do so would have been to allow other hosts or nodes to compensate for the delay.

9. **Claims 63-70** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharman in view of *Regnier* (US 6,345,047 B1).

For claim 63, Sharman teaches implementing a system supporting communication between a packet network (**Sharman: packet data network 108, Fig. 1**) and at least one other network, the at least one other network having an associated communication

format (**Sharman: circuit switched network 103, Fig. 1**), by performing operations comprising:

- (a) accepting a request for setup of a call, the request identifying the at least one other network (**mobile end system 813 receives voice call, Col. 16 Lines 2-4**);
- (b) providing, to a host device, information related to the call setup request (**incoming indication, Col. 16 Lines 23-28**);
- (c) receiving, from the host device, call parameters derived from the information related to the call setup request (**it then sends an answer signaling packet to the mobile data switch for signaling answer supervision, Col 16 Lines 30-34**); and
- (d) communicatively coupling the packet network and the at least one other network, based upon the call parameters (**connect call, Col 16 Lines 34-39**).

Sharman fails to teach but Regnier from the same field of endeavor teaches a machine-readable storage having stored thereon a computer program executable by a machine for causing the machine to perform operations (**Regnier: software stored on a computer readable medium for carrying out methods, Col. 7 Lines 40-42**). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Sharman to incorporate a computer program executable by a machine by implementing software stored on a computer readable medium for carrying out methods as taught by Regnier. The motivation to do so would have been to perform the methods rapidly and repeatably.

For claim 64, Sharman teaches wherein the coupling comprises: converting information from a packet format to the associated communication format of the at least one other network; and transforming information from the associated communication format of the at least one other network to a packet format **(Sharman: modem 406 connects packet links 413 and 414 with circuit link 415, Fig. 4 and Col. 9 Lines 57-67).**

For claim 65, Sharman teaches wherein the packet format is compliant with an Internet protocol (IP) **(Sharman: packet data network follows TCP/IP, Col. 6 Lines 25-37).**

For claim 66, Sharman teaches wherein the packet format is the transmission control protocol (TCP)/Internet protocol (IP) **(Ibid).**

For claim 67, Sharman teaches wherein the at least one other network comprises a conventional telephone switching network **(Sharman: conventional network of telephone switching equipment, Col. 6 lines 11-24).**

For claim 68, Sharman teaches wherein the associated communication format of the at least one other network is an analog format **(Sharman: telephone access link 118 incorporating electrical cable, Col. 6 Lines 63-65).**

For claim 69, Sharman teaches exchanging with the host device digitized voice information (**Sharman: audio path switch connects packet data processor with audio processor and its attached speaker and microphone, Col. 7 Lines 52-54**).

For claim 70, Sharman teaches wherein the packet network is a wireless network (**Sharman: wireless packet radio link 120, Fig. 8**).

Response to Arguments

Applicant's arguments have been fully considered but they are not persuasive.

Claim 22

Applicant argues that Sharman's network system of figure 1 cannot teach the claimed information transmission device for coupling a packet network to a communication network because it is not separate and distinct from the packet and communication networks which it connects. Sharman's network system comprises several separate and distinct components that work together to couple the packet and communication networks. The mobile routing network of figure 2 is part of the network system of figure 1 and comprises a modem 406 as shown in figure 4 that couples packet and circuit links to each other, which teaches applicant's information device for coupling packet and communication networks.

Applicant further argues that Sharman does not teach a separate and distinct host device for managing the information transmission device through a host interface. Sharman's mobile end system 102 is a separate and distinct host device that manages

the mobile routing network through cellular media 811 during packet and circuit switched calls, which teaches applicant's host device for managing the information transmission device.

Claim 25

Applicant argues that Sharman does not teach exchanging digitized voice information via the packet interface because Sharman does not explicitly recite "digitized voice information." Sharman teaches that the audio path switch 802 may connect either cellular circuit channel processor 808 or cellular packet data channel processor 809 to either audio processor 803 and its attached speaker or to modem and packet processor 807. What is transmitted between the cellular packet data channel processor 809 and the audio processor 803 and its attached speaker and microphone when they are connected via audio path switch 802 must comprise digitized voice since the cellular packet data channel processor's packets are inherently digital and thus cannot directly modulate an analog carrier wave, and the audio processor's attached speaker and microphone serve only to reproduce voice signals. Therefore the signals being exchanged must comprise digital voice signals, which teaches applicant's digitized voice information.

Claim 30

Applicant argues that Sharman's modem 406 does not convert digitized voice signals to analog signals and vice versa because Sharman does not explicitly recite

"digitized voice information." Sharman teaches at column 9 Lines 54-67 that modem 406 operates by converting data received over a data link to an analog signal transmitted to a circuit switch, and that circuit switch 407 couples a telephone circuit 109 to the modem 406. A telephone circuit serves only to carry voice signals, therefore Sharman's modem signals must comprise digital voice signals, which teaches applicant's digitized voice information.

Claims 31 and 32

Applicant argues that Sharman cannot teach the converter with buffers because Sharman's buffers are not part of the modem. However, Sharman's modem and buffers are comprised in the mobile data circuit switch 208, which corresponds to applicant's converter. Applicant further argues that Sharman's maximum time buffering cannot teach the predefined buffer time because Sharman teaches a maximum time to live in the packet headers. However, the time to live can be set to take into account packet transit time and buffering time, which corresponds to applicant's predefined buffer time.

Claims 37, 39 and 41

Applicant presents arguments similar to those presented for claim 22 above; however, those arguments are unpersuasive for the same reasons as given above.

Claim 44

Applicant argues that Sharman does not teach receiving configuration information from the host device based on the call setup request. Sharman teaches that the mobile end systems sends an answer signaling packet to the mobile data switch for signaling answer supervision in response to the incoming call indication, which teaches applicant's receiving configuration information.

Claims 33, 35, 42, 60 and 63-70

Applicant argues that the claims should be allowable by virtue of their dependency. However, the rejections of the parent claims are maintained, therefore the rejections of the dependent claims cannot be withdrawn by virtue of their dependency.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW CAMPBELL whose telephone number is 571-270-3988. The examiner can normally be reached on Monday through Friday from 9:00am until 6:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MTC
4-9-2009

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